PRE-CONCEPT FOR A REGIONAL PROJECT/PROGRAMME

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme: Multi-hazard impact-based forecasting and early warning services for increased climate change adaptation investments in Costa Rica, Panama, and the Dominican Republic

Countries: Costa Rica, Panama, Dominican Republic

Thematic Focal Area[1]: Disaster risk reduction and early warning systems

Type of Implementing Entity: Multilateral Implementing Entity

Implementing Entity: International Fund for Agricultural Development (IFAD)

Executing Entities: FAO[2]

Amount of Financing Requested: 14,000,000 (in U.S Dollars Equivalent)

Project Formulation Grant Request: Yes ☒ No ☐

Amount of Requested financing for PFG: 100,000 (in U.S Dollars Equivalent)

Letters of Endorsement (LOE) signed for all countries: Yes ☒ No ☐

NOTE: LOEs should be signed by the Designated Authority (DA). The signatory DA must be on file with the Adaptation Fund. To find the DA currently on file check this page: https://www.adaptation-fund.org/apply-funding/designated-authorities

Stage of Submission:

☐ This pre-concept has been submitted before
☒ This is the first submission ever of the pre-concept

In case of a resubmission, please indicate the last submission date: Click or tap to enter a date.

Please note that pre-concept should not exceed 5 pages (in addition to this first cover page)

[1] Thematic areas are: Food security; Disaster risk reduction and early warning systems; Transboundary water management; Innovation in adaptation finance.
[2] There have been initial discussions with NIEs in each country and with FAO. Final determination on the role of each institution in programme will be determined during concept note development.

Project/Programme Background and Context:

1. Costa Rica, Panama and the Dominican Republic are located in one of the world's most vulnerable tropical regions to the impacts of climate change. They include areas that present increasing frequency and intensity of droughts, which have experienced an increasing frequency and intensity in the last three decades due to climate change, with severe impacts on agriculture and food security. The impacts of droughts are contrasted by an increase in the frequency and severity of extreme rainfall events. The resulting extreme rainfall leads to reductions in aquifer recharge, as well as increased surface runoff and soil erosion. These impacts are exacerbated by poor land management practices, which result in extensive environmental degradation and widespread poverty.
2. Climate projections for the region indicate that, by the end of the century, temperatures will increase by 3–3.5°C under RCP4.5 and by 6–7°C under RCP8.5 (Lyra et al. 2017). At the same time, mean annual rainfall is projected to decrease by 11% on average. These changes will be compounded by prolonged droughts as well as more frequent and intense extreme rainfall. The impacts of future climate change will include decreases in maize, beans and coffee areas and yields, leading to increased poverty, food insecurity and migration from rural areas (Hannah et al. 2017). Because of climate change-related increases in temperature and drought frequency, the extent of dry and arid areas in the region is likely to expand from 64% of the municipalities in Central America to around 85% by 2050.
3. Given these projected climatic changes and associated climate change adaptation (CCA) challenges, there is an urgent need for the generation and use of climate information in decision-making by moving current climate services and early warning systems (EWS) from basic weather forecasting to a multi-hazard impact-based forecasting and early warning services (MH-EWS) to strengthen adaptive capacity and reduce the exposure to climate risks. National meteorological agencies, responsible for steering and coordinating weather observations and forecasting activities, need to have the capacity to manage and deploy a MH-EWS linked to forecast-based early action in collaboration with national and local stakeholders (e.g. technical agroclimatic groups (*mesas técnicas agroclimá*ticas)). There is a demand for the adoption and use of climate information products and services (CIPS) for local gender sensitive community based EWS as a real-time decision-support tool to assist local governments and communities anticipate impacts of hydrometeorological multi-hazards. The information generated by these CIPS and EWSs reduces the climate risks faced by rural enterprises and producer organizations (RE/POs).
4. These climate related issues and limitations of risk mitigation mechanisms is exacerbated by the limited credit access, due in part to the riskier nature of the activities of RE/POs. The limited access to CIPS and community based EWS by RE/POs increases their risk and limits their credit access from local financial institutions (LFIs). Improved access to CIPS could reduce the perceived risk from LFIs and improve credit access for RE/POs. Fostering investment in RE/POs and associated value chains can be determinant of the ability of vulnerable areas to achieve maximum potential of these regions. The financial sector can play a significant role, as project developers point to the need for debt financing, specifically long-term, with longer grace periods, flexible conditions and preferential interest rates. Improved credit access needs to be coupled with technical assistance to ensure that best CCA practices are correctly adopted and sustained by these RE/POs.

Project/Programme Objectives:

5. The main **objective** of the programme is to improve the climate resilience of RE/POs in agriculture, livestock, agroforestry and agrotourism activities in selected climate vulnerable areas in Costa Rica, Panama and Dominican Republic through the generation and use of climate information in decision-making and improved credit access and technical assistance to adopt CCA practices.

6. The Programme focuses on addressing some of the most critical barriers faced by RE/POs to encourage climate risk management and access to financing. While this approach may not respond to other technical and governance barriers and risks that are also relevant for the sustainable and inclusive development of RE/POs in the three countries, the Programme proposes that ***IF*** *tailored CIPS are deployed,* ***THEN*** *RE/POs in agriculture, livestock, agroforestry and agrotourism will improve their climate resilience and CCA to climatic threats and become financially viable* ***BECAUSE*** *reduced perceived risk of RE/POs will improve their credit access, knowledge on CCA practices will be adopted and disseminated, and better understanding of climate risks and behavioural change of local communities will be achieved*.

Project/Programme Components and Financing:

7. The preliminary budget, which is equally distributed among countries within each output, is:

Programme Components	Expected Outcomes	Expected Outputs	Countries	Amount (US$)
1. Impact-based forecasting and climate information	Improved impact-based forecasting and climate products and services	1.1. Hydrometeorological observation network system and modelling capacities enhanced	All three countries	3,000,000
		1.2. Multi-hazard early warning system established/improved	All three countries	900,000
2. Rural communities' resilience and CCA investments	Improved community resilience through increased CCA investments	2.1. Climate change adaptation investments in RE/POs increased	All three countries	6,000,000
		2.2. Climate change adaptation practices and technologies adopted by RE/POs	All three countries	900,000
		2.3. Improved community resilience through access and use of weather and climate information and agrometeorological information services	All three countries	600,000
3. Knowledge Management and Monitoring	Improved regional knowledge	3.1. Lessons learned and best practices documented, and key project indicators reported	All three countries	277,426
6. Project/Programme Execution cost				1,225,800
7. Total Project/Programme Cost				12,903,226
8. Project/Programme Cycle Management Fee charged by IFAD				1,096,774
Amount of Financing Requested				14,000,000

Project Duration: 4 years

PART II: PROJECT/PROGRAMME JUSTIFICATION

8. The programme focuses on two main components: i) Impact-based forecasting and climate information; ii) Rural communities' resilience and CCA investments. A third component will focus on knowledge management and programme monitoring of the two main components.
9. **Component 1. Impact-based forecasting and climate information.** Under this Component, the main Outcome 1 is improved impact-based forecasting and climate information products and services. There are two main Outputs, related to the hardware (observation network system) and CIPS, varying depending on each country's specific needs. The Outputs are:
   i. Output 1.1. Hydrometeorological observation network system and modelling capacities enhanced. Upgrade and expand the hydrometeorological and agrometeorological

monitoring network in selected vulnerable areas of each country. This output will, wherever possible, utilise low-cost field equipment that is easier and less costly to replace, especially for areas where climate observations can be supplemented by other more cost-effective means, at an equal or higher CIPS level. This also includes increasing coordination for data management and improving modelling capabilities to produce high-value products and services for users (e.g., forecasting, climate change scenarios).

ii. Output 1.2. Multi-hazard early warning system established/improved. This output includes the development and/or improvement of impact-based forecasting and risk-based warning services, CIPS, technological innovation, and the use of local knowledge to support the improvement of agroclimatic weather advisories, in coordination with Output 2.3.

10. **Component 2. Rural communities' resilience and CCA investments.** The Outcome under this component is the improved community resilience against climate change through increased CCA investments. This includes the following three outputs:
    i. Output 2.1. Climate change adaptation investments in RE/POs increased. This includes:
        - Development of business plans for RE/POs (aimed at women and young people) for improved credit access with LFIs and implementation of CCA investments.
        - Capacity building of LFIs to develop green loan products in line with the business plans for CCA investments, and technological solutions from third-party service providers that use climate data and information generated under Component 1 to conduct a comprehensive assessment of climate risks for RE/POs investments. The identified risks will be mitigated through dedicated green loan products, following the taxonomy for sustainable financing in Costa Rica, Panama, and the Dominican Republic.
    ii. Output 2.2. Climate change adaptation solutions adopted by RE/POs. The provision of technical assistance and training for RE/POs (aimed at women and young people) for the adoption of CCA practices and improvement of climate resilience.
    iii. Output 2.3. Improved local resilience through access and use of weather and climate information and agrometeorological information services. Activities include training and "last mile" communication solutions to achieve better understanding of climate risks and behavioural change of local communities in prioritized territories and complement Outputs 2.1 and 2.2, including the technical agroclimatic groups and local knowledge.
11. **Component 3. Knowledge Management and Monitoring.** Under this component, the Outcome will be the improved exchange of knowledge and lessons learned from the project activities under the first two main Components. The Output and activities include:
    i. Output 3.1. Strengthened knowledge sharing and management and programme monitoring. This will include the development of Knowledge Management Strategy, the design and sharing of knowledge products, the establishment of two regional communities of practice to exchange knowledge and lessons learned, innovation in CCA technologies and best practices, and the development of the programme M&E system to report Programme Indicators, the monitoring of programme safeguards and gender plans, and the design and implementation of tools and methodologies to capture, assess, and document lessons learned and best practices.
12. Due to the limited programme funds, areas where interventions could have the greatest potential will be **prioritized** during the concept note development stage through a participatory process with main stakeholders in each country. The scope of analysis will use a set of criteria including vulnerable communities, existence of agriculture, livestock, agroforestry and agrotourism activities with high or very high risks of droughts and high climate vulnerability,

and social, economic, and environmental factors. Priority would be given to areas with the best enabling conditions for initiating programme interventions and potential for scaling up.

13. The programme **innovation** is that it provides a linkage between the CIPS with improved credit access and adoption of CCA technologies and best practices, such as the technical agroclimatic groups. This will allow to promote new and innovative solutions to CCA by using technologies that use the climate information products as an input into the credit cycle of LFIs. The regional approach would provide a **cost-effective** intervention in the context of the regional hydrometeorological observation network system and its coordination through the Central American Integration System (SICA). The regional approach would support cost-effectiveness by allowing for regional climate services to be improved and acquired, reducing the cost for all participating countries. The regional approach will also allow for sharing of best practices and knowledge regarding the implementation of sustainable financing taxonomy.
14. **Consistency with regional and national priorities**. The proposed programme is consistent with regional and national priorities, including National Determined Contributions (NDCs) and National Adaptation Plans. At the regional level it aligns with the Central American Strategy of Territorial Rural Development 2010-2030, the Central American Policy of Comprehensive Risk Management 2015-2030, and the Strategy of Sustainable Agriculture Adapted to Climate for the SICA Region 2018-2030. The NDCs of all three countries include EWSs, improved agroclimatic information, and financial mechanisms to implement CCA in the targeted sectors.
15. **Stakeholder participation and consultation during project preparation**. The pre-concept note has been developed in consultations with the Ministries of Agriculture and Ministries of Environment of all three countries. A Stakeholder Engagement Plan will be developed to engage key stakeholders, including vulnerable groups in rural communities (women, youth, afro-descendants, indigenous people (IP)), identifying their roles to specific project outcomes. An Inception Workshop will engage different actors and stakeholders and set out a work plan. The consultation process will be documented, including gender and IPs indicators.
16. **Programme sustainability during project design**. The programme will incorporate elements to ensure its long-term sustainability, including coordination with the Meteorological organizations in each country of the operation and maintenance (O&M) plans for the new/updated hydrometeorological stations, and capacity building and technical assistance to RE/POs and local communities to sustain results beyond project completion.
17. **Economic, social and environmental benefits**. Economic: improvement of local economy and livelihoods through better economic opportunities and reduced economic losses from extreme climate events; Social: reduced poverty-related problems such as malnutrition and food insecurity. Environmental: reduced surface runoff, soil erosion and environmental degradation. Gender sensitive approaches will be mainstreamed during programme implementation, identifying gender and IPs disaggregated indicators.
18. **Social and Environmental Safeguards**. During the concept note phase, an Environmental and Social Impact Assessment (ESIA) will be conducted to determine the risk level of the programme and identify mitigation measures following IFAD's Social, Environmental and Climate Assessment Procedures (SECAP) and Enhanced Complaints Procedure, in accordance with AF's Environmental and Social Policy and Gender Policies.
19. **Duplication of programme with other funding sources**. An initial project mapping at the national and regional level to avoid duplication of the programme with other funding sources has been developed. During concept note design, and through a participatory national and regional consultation process, the programme will further identify funding sources and account for lessons learned from previous relevant AF projects implemented in each country.

20. **Justification for funding requested**. The programme will provide access to public goods (e.g., hydrometeorological observation network system) that will support CCA activities, as well as the adoption of CCA best practices for RE/POs coupled with improved financial instruments tailored to the CCA needs that otherwise they would not have had access to.
21. **Risks**. The programme will provide an ESIA during concept note development. A preliminary assessment of potential risks include: i) Gender Equality: Women may not have access to financial products because of gender based discrimination, and cultural bias; ii) Biodiversity Conservation: Project activities could expand the agricultural frontier and generate adverse ecosystem impacts; iii) Indigenous Peoples: Structural asymmetries in the financial system may limit IP's participation (only applies to certain countries with presence of IPs); iv) Climate Change and Disaster Risks: Climate vulnerability of beneficiaries may affect loan repayment despite the EWS; v) O&M Risks: Hydrometeorological and agrometeorological monitoring equipment might be damaged or stolen.

PART III: IMPLEMENTATION ARRANGEMENTS

22. The preliminary implementation arrangements are: i) Implementing Entity (IE): IFAD; ii) Executing Entities (EEs): Initial discussions has identified FAO as potential EE. Any requirements requested to IFAD as IE will be reflected in the specific agreement with FAO. Also, initial consultations have been conducted with National Implementing Agencies (NIEs) in each country to explore their possible role in project implementation. In Costa Rica with Fundecooperacion para el Desarrollo Sostenible; in Panama with Fundación Natura; and in the Dominican Republic with the Dominican Institute of Integral Development of Dominican Republic (IDDI) or Fundación Marena (a new NIE for accreditation). Further consultations will be conducted during the concept note/funding proposal development stage.
23. Regional coordination will be articulated with a Programme Steering Committee that includes representatives of each country, IFAD, and selected EEs. In each country there will be a local project management unit (PMU) to ensure proper project implementation.

PART IV: ENDORSEMENT BY GOVERNMENTS AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government[3]

Provide the name and position of the government official and indicate date of endorsement for each country participating in the proposed project/programme. Add more lines as necessary. The endorsement letters should be attached as annexes to the project/programme proposal.

Milciades Conception, *Minister of Environment,* *Ministry of Environment, Panama*	*December, 13, 2023*
Milagros De Camps, *Deputy Minister of Climate Change and Sustainability,*	*January, 01, 2024*

[3] Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

Ministry of Environment and Natural Resources, Dominican Republic	
Carlos Isaac Perez Mejia, *Vice Minister of Strategic Affairs,* *Ministry of Environment and Energy*	*March, 12, 2024*

B. **Implementing Entity certification**

Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.	
Implementing Entity Coordinator Ms Janie Rioux Senior Technical Specialist – Climate Change- AF coordinator	
Date: *April, 23, 2024*	Email: j.rioux@ifad.org
Project Contact Person: Mr Oliver Page, Regional Climate Change and Environmental Specialist, IFAD	
Email: o.page@ifad.org	

Annex 1 Letters of Endorsement.

REPÚBLICA DE PANAMÁ
GOBIERNO NACIONAL

MINISTERIO DE AMBIENTE

December 13, 2023.
DM-2532-2023

The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for the proposal **"Multi-hazard early warning and forecasting services to increase investments in climate adaptation in Costa Rica, Panama and the Dominican Republic"**

In my capacity as designated authority for the Adaptation Fund in Panama, I confirm that the above regional project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the region.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by International Fund for Agricultural Development (IFAD) and executed by NIE Fundación Natura.

Sincerely,

REPÚBLICA DE PANAMÁ
DESPACHO DEL MINISTRO
MINISTERIO DE AMBIENTE

MILCIADES CONCEPCIÓN
Minister of Environment, Ministry of Environment

MC/AGA/IT
cc: IFAD

Albrook, Calle Broberg, Edificio 804
República de Panamá
Tel.: (507) 500-0855

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GOBIERNO DE LA
REPÚBLICA DOMINICANA
MEDIO AMBIENTE

VCCyS-0015-2024

26/01/2024

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for multi-hazard early warning and forecasting services to increase investments in climate adaptation in Costa Rica, Panama, and the Dominican Republic.

In my capacity as designated authority for the Adaptation Fund in Dominican Republic, I confirm that the above regional project/programme proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the Dominican Republic.

Accordingly, I am pleased to endorse the above project/programme proposal with support from the Adaptation Fund. If approved, the project/programme will be implemented by International Fund for Agricultural Development (IFAD) and executed by FAO, Fundecooperacion para el Desarrollo Sostenible (Costa Rica), Fundación Natura (Panama) and (To be confirmed) (Dominican Republic).

Sincerely,

Milagros De Camps
Deputy Minister of Climate Change and Sustainability

MINISTERIO DE AMBIENTE Y ENERGÍA | GOBIERNO DE COSTA RICA

Viceministerio de Gestión Estratégica

San José, 12 de marzo del 2024
DVGE-049-2024

The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: +202 522 3240/5

Subject: Endorsement for The Multi-hazard impact-based forecasting and early warning services for increased climate adaptation investments in Costa Rica, Panama, and the Dominican Republic Project.

Dear sirs

In my capacity as designated authority for the Adaptation Fund in Costa Rica, I confirm that the above regional project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the country.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by International Fund for Agricultural Development (IFAD) and executed by FAO.

Sincerely,

Ing. Carlos Isaac Pérez Mejía
Vice Minister of Strategic Affair
Ministry of Environment and Energy

Cc: Archivo Consecutivo

Annex II: Project Formulation Grant (PFG)

Submission Date: 6th May 2024

Adaptation Fund Project ID:
Country/ies: Panama, Costa Rica, Dominican Republic
Title of Project/Programme: Multi-hazard impact-based forecasting and early warning services for increased climate change adaptation investments in Costa Rica, Panama, and the Dominican Republic
Type of IE (NIE/MIE): MIE
Implementing Entity: IFAD
Executing Entity/ies: FAO

A. Project Preparation Timeframe

Start date of PFG	**June 2024**
Completion date of PFG	**June 2025**

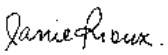
B. Proposed Project Preparation Activities ($)

Describe the PFG activities and justifications:

List of Proposed Project Preparation Activities	Output of the PFG Activities	USD Amount
Detailed design of project activities/outputs/outcomes	Funding Proposal finalized with all technical requirements and validation by stakeholders	45 000
Participatory consultations with stakeholders	Stakeholder consultation documented and stakeholder inputs incorporated into design	30 000
Preparation of safeguard studies and report	Safeguard studies and report, including Targeted Adaptation Assessment, ESCMP and Stakeholder Engagement Plan	20 000
Preparation of M&E plan	M&E Plan finalized and validated	5 000
Total Project Formulation Grant		100 000

C. Implementing Entity

This request has been prepared in accordance with the Adaptation Fund Board's procedures and meets the Adaptation Fund's criteria for project identification and formulation

Implementing Entity Coordinator, IE Name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Ms Janie Rioux		05/06/2024			j.rioux@ifad.org